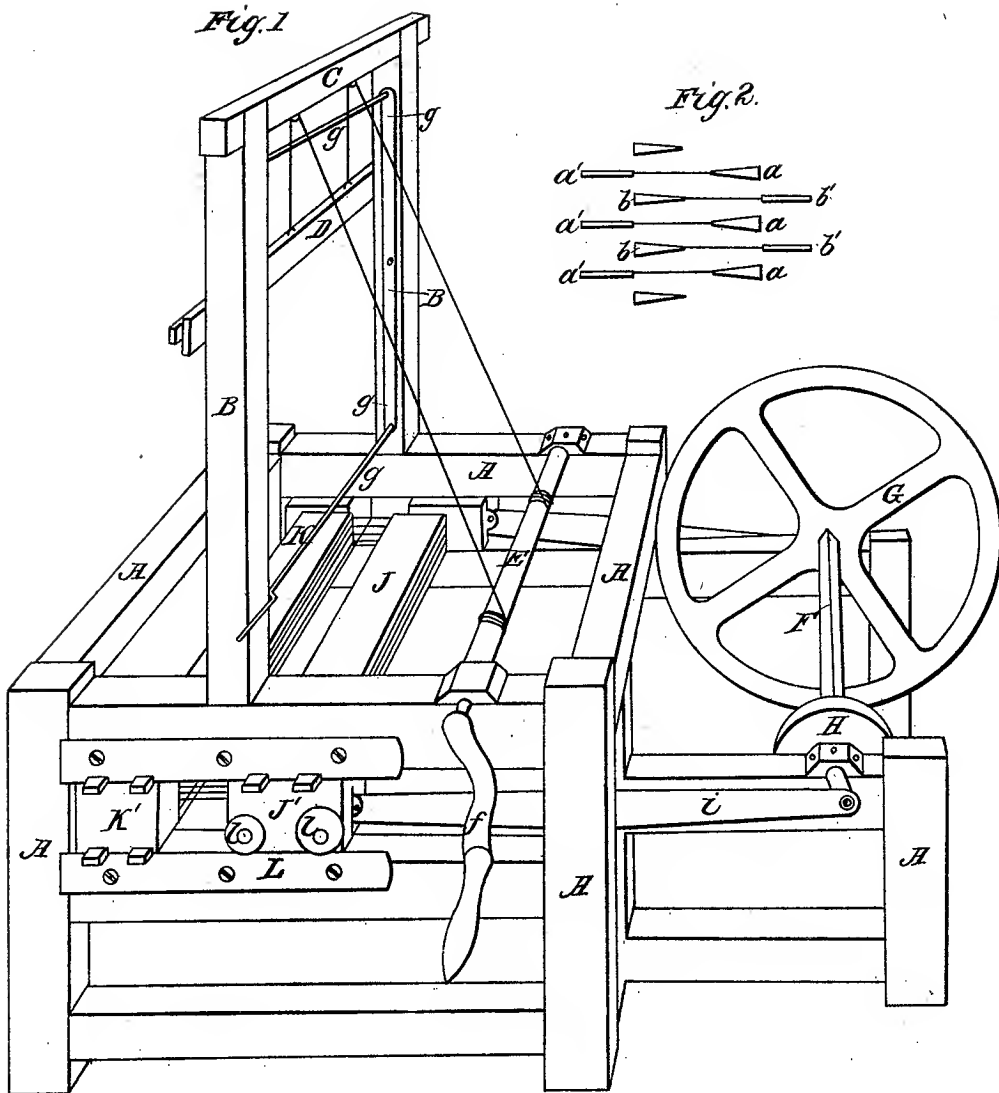


J. WARREN.

Hemp Brake.

No. 234.

Patented June 14, 1837.



Witnesses.

David Hoxey
Dana Bugham,

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John Warren

UNITED STATES PATENT OFFICE.

JOHN WARREN, OF WESTBROOK, MAINE.

IMPROVEMENT IN MACHINES FOR BREAKING HEMP AND FLAX.

Specification forming part of Letters Patent No. 232, dated June 14, 1837.

To all whom it may concern:

Be it known that I, JOHN WARREN, of Westbrook, in the county of Cumberland and State of Maine, have invented a new and Improved Machine for Breaking Hemp and Flax; and I do hereby declare that the following is a full and exact description thereof.

My machine operates, in some degree, in the manner of the common hand-brake—that is to say, the strips or beaters by which the breaking is effected pass in between each other, carrying the fibers with them, one set of the beaters being stationary and the other movable; but the movable brake does not meet the stationary one obliquely, as in the common brake, but moves throughout its course parallel thereto and works horizontally instead of vertically. The hemp or flax to be broken hangs vertically from a clamp above the brake, being held firmly therein by one end. The clamp extends along the whole of the brake, and, for the purpose of feeding, is raised and lowered by means of a windlass or feed-roller. To free the fibers from between the slats composing the brake, at every stroke blades of iron or other suitable material enter, at the back side of the brake, into the spaces between the slats, forcing the hemp or flax therefrom, and thus allowing it to be raised or lowered at pleasure between every stroke of the beaters.

In the accompanying drawings, A A A is the frame of the machine; B B, two posts rising vertically therefrom and connected at top by the cross-beam C. This cross-beam is not framed firmly into the uprights, but has a little play up and down and rests upon spiral or other springs, as it is desirable that it should possess some elasticity. From the beam C the clamp D is suspended, which consists of two strips of timber, between which the hemp or flax is to be held. These strips are armed at each edge where they come together with strips of steel formed into teeth like saw-teeth, or with other similar contrivance, to hold the hemp or flax firmly, and have key-bolts or other devices by which they may be clamped together and loosened with facility.

E is a windlass or feed-roller turned by means of the winch *f*, and raising or lowering the clamp C by means of lines and pulleys, as shown in the drawings.

F is a main shaft, having on it a fly-wheel, G, to regulate the motion, and a whirl, H, by a band upon which or by any other suitable gearing the propelling-power may be given. Upon each end of this shaft there is a crank acting upon a shackle-bar or connecting-rod, I, one end of each of which is attached by a joint-pin to the movable brake J, the end of which is seen at J'. The fixed or standing brake is shown at K, its end at K'. This brake is not absolutely fixed, but is capable of moving backward and forward to a short distance, having strong springs between it and the frame, which bear it up against stops in front, but admit of its receding, should the thickness of the hand of hemp or flax at any time be such as to render this necessary. The degree of elasticity thus given to it serves also at all times to cause the machine to act with greater ease and freedom than it would otherwise.

L L are iron guide plates or ways by which the brakes are retained in their places and guided in their motions. The movable brake runs upon friction rollers *ll* upon the lowermost of these plates.

To exhibit clearly the manner in which the blades of metal clear the hemp or flax from between the slats of the stationary and the movable brake, I have shown at Fig. 2 the ends of these slats and blades and the rods by which they are connected. Let *a a a* represent the slats of the movable brake; *a' a' a'*, metallic blades attached to them at each end by rods, (represented by the lines which connect them,) and let, in like manner, *b b b* be slats of the stationary brake, and *b' b'* the plates or blades connected with them. It will be readily seen that by causing the slats to separate the blades will enter between them, and produce the effect intended.

When the hemp or the flax is to be affixed to or removed from the clamp, it will be most convenient to cause it to swing over toward the back of the machine, and this may be readily effected by means of a swing-frame between the upright posts B B. This swing-frame is represented in plan and marked *g g*, and its use will be readily understood.

I have not given any particular dimensions of the respective parts of this machine, as these may be much varied; and the whole machine,

also, may be adapted in size to the business it is intended to perform; and a workman acquainted with machinery of this kind will not be at a loss in these particulars.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The manner of constructing a machine for breaking hemp and flax, substantially as herein described—that is to say, with a movable brake acting horizontally upon a stationary brake by means of cranks or other analogous

contrivances, with metal or other blades attached to them, and operating in the manner and for the purpose herein set forth.

2. The general arrangement of the clamp and other parts of the feeding apparatus, by which they are adapted to operate in conjunction with the said horizontal brakes.

JOHN WARREN.

Witnesses:

THOS. P. JONES,

JAS. A. ANDREWS.